



Building Consistency Meeting

Residential

Date 04/02/2014 Recorder and minutes prepared by: Jay Garbus/Lon McSwain

Staff present: On File

Public present: Charles Sofinonski (M/I Homes); Kenny Childers (Cornerstone Builders); Ryan Meevwen (M/I Homes) Dave Reynolds (BFS); Eric Wagner, Brian Hall (Classic Homes); Scott McCracken (Ryan Homes); Thomas Nunez

1. Required lighting at exterior doors - 2nd floor door with no step down does not require lights but if stairs or step down has then will need lights (R303.6)

R303.6 Stairway illumination. All interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads. Interior stairways shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs the artificial light sources shall be capable of illuminating treads and landings to levels not less than 1 foot-candle (11 lux) measured at the center of treads and landings. Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a *basement* from the outside *Grade* level shall be provided with an artificial light source located in the immediate vicinity of the bottom landing of the stairway.

Exception: An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section.

R303.6.1 Light activation. Where lighting outlets are installed in interior stairways, there shall be a wall switch at each floor level to control the lighting outlet where the stairway has six or more risers. The illumination of exterior stairways shall be controlled from inside the *dwelling unit*.

Exception: Lights that are continuously illuminated or automatically controlled.

2. Baffles for blown insulation at unconditioned areas - Wall of bonus room over garage to depth of rim board minimum. Cannot have break in thermal envelope.

3. Rigid insulation under attic pull down ladders - Cannot interface with the steps of pull down. Need space between step and insulation. Pull down must be designed for the rigid insulation installation. (R1102.2.3)

1) Pull down stair systems shall be weatherstripped and insulated to an R-5 insulation value such that the insulation does not interfere with proper operation of the stair. Non-rigid insulation materials are not allowed. Additional insulation systems that enclose the stair system from above are allowed. Exposed foam plastic must meet the provisions of the Building Code or Residential Code, respectively.

4. Exposed foam on back of attic doors - Allowing behind half door on knee wall. Full door must meet Energy code.

5. Keyed locks other than egress door - Only main door has to have keyed dead bolt all others can have double key (R311.2)



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R311.2 Egress door. At least **one egress door shall be provided** for each *dwelling* unit. The egress door shall be side-hinged, and shall provide a minimum clear width of 32 inches (813mm) when measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The minimum clear height of the door opening shall not be less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. **Other doors shall not be required to comply** with these minimum dimensions. **Egress doors shall be readily operable from inside the dwelling without the use of a key or special knowledge or effort.**

6. Chairs/supports needed for wire mesh for slabs - Nothing in residential code requires it, only by engineering design.

7. Smoke and CO detector placement - Location of detectors by the Residential Code (R314.3 and R315.1) and installation by manufacture specs and NFPA 72.

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional *story* of the *dwelling*, including *basements* and habitable attics but not including crawl spaces and uninhabitable *attics*. In *dwelling*s or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full *story* below the upper level. When more than one smoke alarm is required to be installed within an individual *dwelling* unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

R315.1 Carbon monoxide alarms. For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in *dwelling units* within which fuel-fired *appliances* are installed and in dwelling units that have attached garages.

R315.2 Where required in existing dwellings. Where work requiring a *permit* occurs in existing *dwellings* that have attached garages or in existing dwellings within which fuel-fired *appliances* exist, carbon monoxide alarms shall be provided in accordance with Section R315.1.

8. Cold weather procedures - ACI 318 guidelines for when to protect concrete. Office will tell inspectors when it goes in effect for enforcement.

ACI 318

COLD WEATHER PROTECTION

Cold Weather (defined)

A period of 3 consecutive days when the average temperature is below 40 degrees and not above 50



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degrees for more than half of anyone of those 3 days. A cold weather situation US based solely upon previous temperature and not upon forecasted temperatures.

Standards of Protection

Surface concrete temperatures must be maintained at 55 degrees for **3 days**. Curing time may be reduced to 2 days if cement content is increased by 100 pounds per cubic yard, or type 3 Portland cement is used or approved accelerator is employed.

Methods of Protection

- Footings may be covered with 6 inches of straw. Straw should be held in place with tarps or plastic.
- For foundation walls insulated blankets may be used.
- After initial curing, recommendation is to keep concrete dry for 2-3 more days before exposure

Inspection Requirements

When cold weather exists, inspection requirements are as follows:

- Cold weather protection materials must be on site to pass inspection.
- If subgrade is frozen the inspection will not be passed.
- When placing conventional concrete during "non-cold weather" conditions, protection from freezing shall be maintained for at least 24 hours.
- If the inspector believes any of the required procedures have not been followed he may require testing or concrete batch tickets, or both.





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9. Footing inspection on frozen ground - Cannot pour on frozen ground (ice or mud). Can protect ground with blankets or straw before pour, or dig below frozen ground. Mud mats with a soil engineer report.

10. Review SOP for spray foam insulation - Wall or ceiling foam or spray insulation need ICC Evaluation report at time of inspection. At final need installer certificate with ICC Evaluation for inspector to review.

1. Wall inspections - Evaluation report should be on site (concealed area inspection)
2. Final inspection - Evaluation report from ICC, installers certificate & ResCheck

ICC EVALUATION SERVICE	
Most Widely Accepted and Trusted	
ICC-ES Evaluation Report	ESR-3225
Reissued July 1, 2013	
This report is subject to renewal July 1, 2014.	
www.icc-es.org (800) 423-6587 (562) 699-0543 A Subsidiary of the International Code Council®	
DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 21 00—Thermal Insulation REPORT HOLDER: SPRAY FOAM POLYMERS POST OFFICE BOX 1182 NEW CANAAN, CONNECTICUT 06840 (800) 853-1577 www.sprayfoampolymers.com EVALUATION SUBJECT: THERMOSEAL 500 AND THERMOSEAL 2100 SPRAY APPLIED POLYURETHANE FOAM INSULATIONS 1.0 EVALUATION SCOPE Compliance with the following codes: ■ 2012 and 2009 International Building Code® (IBC) ■ 2012 and 2009 International Residential Code® (IRC) ■ 2012 and 2009 International Energy Conservation Code® (IECC) ■ Other Codes (see Section 8.0) Properties evaluated: ■ Surface-burning characteristics	spray-applied product. The two components of the insulation are polymeric isocyanate (A-component) and a resin (B-component) which, when stored in unopened containers at a temperature between 65°F and 85°F (18°C and 29°C), have a shelf life of six months. 3.1.2 ThermoSeal 2100: ThermoSeal 2100 is a medium-density, closed-cell, polyurethane foam plastic insulation system with an installed nominal density of 2.4 pcf (38.4 kg/m³). ThermoSeal 2100 is a two-component, spray-applied product. The two components of the insulation are polymeric isocyanate (A-component) and a resin (B-component) which, when stored in unopened containers at a temperature between 65°F and 85°F (18°C and 29°C), have a shelf life of six months. 3.2 Surface Burning Characteristics: When tested in accordance with ASTM E84 at a maximum thickness of 4 inches (102 mm), and a nominal density of 0.6 pcf (9.6 kg/m³) for ThermoSeal 500 and a nominal density of 2.4 pcf (38.4 kg/m³) for ThermoSeal 2100, the insulations have a flame-spread index of 25 or less and a smoke-developed index of 450 or less. 3.3 Thermal Resistance: The insulations have a thermal resistance (R-value) at a mean temperature of 75°F (24°C) as shown in Tables 1 and 2. 3.4 Air Permeability: ThermoSeal 500 insulation at a minimum thickness of

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Approved By Lon McSwain Date 04/07/2014